

ARTICLE XXIII

Solar Photovoltaic Installations Zoning Bylaw

§300-144. Purpose

The purpose of this bylaw is to promote the creation of new large-scale ground-mounted solar photovoltaic installations by providing standards for the placement, design, construction, operation, monitoring, modification and removal of such installations that address public safety and minimize impacts on scenic, natural and historic resources.

The provisions set forth in this section shall apply to the construction, operation, modification and/or removal large-scale ground-mounted solar photovoltaic installations.

§300-144.1. Applicability

This section applies to large-scale ground-mounted solar photovoltaic installations proposed to be constructed after the effective date of this section. This section also pertains to physical modifications that materially alter the type, configuration, or size of these installations or related equipment.

Nothing in this article should be construed to prevent the installation of accessory roof mounted solar photovoltaic installations.

§300-145. General Requirements for all Large Scale Solar Power Generation Installations

The following requirements are common to all large-scale solar photovoltaic installations to be sited in designated locations.

§300-145.1. Compliance with Laws, Ordinances and Regulations

The construction and operation of all large-scale solar photovoltaic installations shall be consistent with all applicable local, state and federal requirements, including but not limited to all applicable safety, construction, electrical, and communications requirements. All buildings and fixtures forming part of a large-scale solar photovoltaic installation shall be constructed in accordance with the State Building Code.

§300-145.2. Permitting Process

A. Building Permit and Building Inspection

No large-scale solar photovoltaic installation shall be constructed, installed or modified as provided in this section without first obtaining a building permit.

B. Fees

The application for a building permit for a large-scale solar photovoltaic installation must be accompanied by the fee required for a building permit.

C. Site Plan Review

Large-scale solar photovoltaic installations with 250 kW or larger of rated nameplate capacity shall undergo site plan review by the Planning Board prior to construction, installation or modification as provided in this section. A large-scale solar photovoltaic installation shall require site plan review as a major project under Article XVIII. An on-site photovoltaic installation shall require site plan review as a minor project under Article XVIII. The site plan review application shall be filed in accordance with Article XVIII.

The applicant shall demonstrate to the Planning Board's satisfaction that the following design process was followed in determining the layout of a proposed solar photovoltaic installation:

- (1) Understanding the development site. The first step is to inventory existing site features, taking care to identify sensitive and noteworthy natural, scenic and cultural resources on the site, and to determine the connection of these important features to each other.
- (2) Evaluating site context. The second step is to evaluate the site in its larger context by identifying physical (e.g., stream corridors, wetlands), transportation (e.g. road and bicycle networks), and cultural (e.g., recreational opportunities) connections to surrounding land uses and activities.

§300-146. Submission Requirements

§300-146.1.Required Documents All plans and maps shall be prepared, stamped and signed by a Professional Engineer licensed to practice in Massachusetts.

A. Pursuant to the site plan review process, the project proponent of a Large Scale Solar Voltaic Installation shall provide the following documents:

(a) A site plan showing:

- i.** Property lines and physical features, including roads, for the project site;
- ii.** Proposed changes to the landscape of the site, grading, vegetation clearing and planting, exterior lighting, and screening vegetation or structures;
- iii.** Blueprints or drawings of the solar photovoltaic installation signed by a Professional Engineer licensed to practice in the Commonwealth of Massachusetts showing the proposed layout of the system and any potential shading from nearby structures or vegetation
- iv.** One or three line electrical diagram detailing the solar photovoltaic installation, associated components, and electrical interconnection methods, with all National Electrical Code compliant disconnects and overcurrent devices;
- v.** Documentation of the major system components to be used, including the PV panels, mounting system, and inverter;
- vi.** Name, address, and contact information for proposed system installer;
- vii.** Name, address, phone number and signature of the project proponent, as well as all co-proponents or property owners, if any;
- viii.** The name, contact information and signature of any agents representing the project proponent; and

- (b) Documentation of actual or prospective access and control of the project site (see also §300-146.7.A);
- (c) An operation and maintenance plan (see also §300-146.3);
- (d) Landscape plan (see also Section §300-146.7.B
- (e) Zoning district designation for the parcel(s) of land comprising the project site (submission of a copy of a zoning map with the parcel(s) identified is suitable for this purpose);
- (f) Proof of liability insurance; and
- (g) Description of financial surety that satisfies §300-146.8.C.3

The Planning Board may waive documentary requirements as it deems appropriate.

§300-146.2. Site Control

The project proponent shall submit documentation of actual or prospective access and control of the project site sufficient to allow for construction and operation of the proposed large-scale solar photovoltaic installation.

§300-146.3. Operation & Maintenance Plan

The project proponent shall submit a plan for the operation and maintenance of the large-scale ground-mounted solar photovoltaic installation, which shall include measures for maintaining safe access to the installation, storm water controls, as well as general procedures for operation and maintenance of the installation.

§300-146.4. Utility Notification

No large-scale solar photovoltaic installation shall be constructed until evidence has been given to the Planning Board that the utility company that operates the electrical grid where the installation is to be located has been informed of the solar photovoltaic installation owner or operator's intent to install an interconnected customer-owned generator. Off-grid systems shall be exempt from this requirement.

§300-146.5. Dimension and Density Requirements

A. Setbacks

The purpose of setbacks is to mitigate adverse impacts on abutting properties. For large-scale, ground-mounted solar photovoltaic installations, front, side and rear setbacks shall be as follows:

- a. Minimum of 50 feet
- b. Every abutting property shall be visually screened from the project through any one or combination of the following location, distance, plantings, existing vegetation and fencing (not to exceed 6 feet)

B. Appurtenant Structures

All appurtenant structures to large-scale ground-mounted solar photovoltaic installations shall be subject to reasonable regulations adopted by the Planning Board after a public hearing concerning the bulk and height of structures, lot area, setbacks, open space, parking and building coverage requirements. All such appurtenant

structures, including but not limited to, equipment shelters, storage facilities, transformers, and substations, shall be architecturally compatible with each other. Whenever reasonable, structures should be shielded from view by existing vegetation or plantings and/or joined or clustered to avoid adverse visual impacts.

C. Frontage

The Planning Board may grant a waiver from the frontage requirements of the underlying zoning district if the applicant can demonstrate: (1) that failing to do so would render the siting of the large scale solar ground-mounted photovoltaic system unfeasible; and (2) that such waiver will not impede access or egress for maintenance personnel or emergency responders.

§300-146.6. Design Standards

A. Lighting

Lighting of large-scale ground-mounted solar photovoltaic installations shall be consistent with local, state and federal law. Lighting of other parts of the installation, such as appurtenant structures, shall be limited to that required for safety and operational purposes, and shall be reasonably shielded from abutting properties. Where feasible, lighting of the solar photovoltaic installation shall be directed downward and shall incorporate full cut-off fixtures to reduce light pollution.

B. Signage

Signs on large-scale ground-mounted solar photovoltaic installations shall comply with the town's sign bylaw. A sign consistent with the town's sign bylaw shall be required to identify the owner and provide a 24-hour emergency contact phone number.

Solar photovoltaic installations shall not be used for displaying any advertising except for reasonable identification of the manufacturer or operator of the installation.

C. Utility Connections

Reasonable efforts, as determined by the Planning Board, shall be made to place all utility connections from the solar photovoltaic installation underground, depending on appropriate soil conditions, shape, and topography of the site and any requirements of the utility provider. Electrical transformers for utility interconnections may be above ground if required by the utility provider.

§300-146.7. Safety and Environmental Standards

A. Emergency Services Plan

Prior to issuance of a building permit, the large-scale solar photovoltaic installation owner or operator shall provide a plan including but not limited to the project summary, electrical schematic, and site plan to the town's local safety officials including the Police Chief, Fire Chief and Building Inspector. Upon request the owner or operator shall cooperate with local safety officials in developing an

emergency response plan. All means of shutting down the solar photovoltaic installation shall be clearly marked. The owner or operator shall identify a responsible person for public inquiries throughout the life of the installation.

B. Land Clearing, Soil Erosion and Habitat Impacts

Clearing of natural vegetation shall be limited to that which is necessary for the construction, operation and maintenance of the large-scale ground-mounted solar photovoltaic installation and per practices of best management of natural areas or good husbandry of the land or forest otherwise prescribed by applicable laws, regulations, and bylaws.

Applicant shall submit a landscape plan detailing all proposed changes to the landscape of the site, including temporary or permanent roads or driveways, grading, vegetation clearing and planting, exterior lighting and screening vegetation or structures. Lighting shall be designed to minimize glare on abutting properties and be directed downward with full cut-off fixtures to reduce light pollution.

§300-146.8. Monitoring and Maintenance

A. Solar Photovoltaic Installation Conditions

The large-scale ground-mounted solar photovoltaic installation owner or operator shall maintain the facility in good condition. Maintenance shall include, but not be limited to, painting, structural repairs, and integrity of security measures. Site access shall be maintained to a level acceptable to the Fire Chief. The owner or operator shall be responsible for the cost of maintaining the solar photovoltaic installation and any access road(s), unless accepted as a public way.

B. Modifications

All material modifications to a large-scale ground-mounted solar photovoltaic installation made after issuance of the required building permit shall require approval by the Planning Board through site plan review.

C. Abandonment or Decommissioning

1. Removal Requirements

Any large-scale ground-mounted solar photovoltaic installation which has reached the end of its useful life or has been abandoned consistent with the Abandonment section of this bylaw shall be removed. The owner or operator shall physically remove the installation no more than 150 days after the date of discontinued operations. The owner or operator shall notify the Planning Board by certified mail of the proposed date of discontinued operations and plans for removal. Decommissioning shall consist of:

- (a) Physical removal of all large-scale ground-mounted solar photovoltaic installations, structures, equipment, security barriers and transmission lines from the site.
- (b) Disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations.
- (c) Stabilization or re-vegetation of the site as necessary to minimize erosion. The Planning Board may allow the owner or operator to leave landscaping or designated below-grade foundations in order to minimize erosion and disruption to vegetation.

2. Abandonment

Absent notice of a proposed date of decommissioning or written notice of extenuating circumstances, the solar photovoltaic installation shall be considered abandoned when it fails to operate for more than two year without the written consent of the Planning Board. If the owner or operator of the large-scale ground-mounted solar photovoltaic installation fails to remove the installation in accordance with the requirements of this section within 150 days of abandonment or the proposed date of decommissioning, the town may enter the property and physically remove the installation

3. Financial Surety

Proponents of large-scale ground-mounted solar photovoltaic projects shall provide a form of surety, either through escrow account, bond or otherwise, to cover the cost of removal in the event the town must remove the installation and remediate the landscape, in an amount and form determined to be reasonable by the Planning Board, but in no event to exceed more than 125 percent of the cost of removal and compliance with the additional requirements set forth herein, as determined by the project proponent. Such surety will not be required for municipally- or state-owned facilities. The project proponent shall submit a fully inclusive estimate of the costs associated with removal, prepared by a qualified engineer. The amount shall include a mechanism for calculating increased removal costs due to inflation.

§300-147. Severability

The invalidity of any section or provision of this bylaw shall not invalidate any other section or provision thereof.